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EXAMINER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/734,783	GONDHALEKAR ET AL.
	Examiner	Art Unit
	Michael Y. Won	2155

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 December 2003*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-54* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13,18-20,24,25,37-46 and 49-54* is/are rejected.

7)☒ Claim(s) *14-17,21-23,26-36,47 and 48* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All   b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *9/23/04*.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

1.   This action is in response to the application filed December 12, 2003.

2.   Claims 1-54 have been examined and are pending with this action.

Claim Objections

3.   Claim 18 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 18 recites the same limitation as an element of claim 2, which claim 18 depend upon.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

4.   Claims 1-54 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims are generally narrative and indefinite, failing to conform to current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors.

Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

5.   Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are the functionalities of: producer thread, task queue, and worker thread.

6.   Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: producer thread, task queue, and worker thread.

7.   Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are the functionalities of: rules factory, utility thread, logging system work creator factory, data cache, properties file and database.

8.   Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are all the associations among the elements of claim 2.

9.   Claim 1 recites the limitation "said system" on page 57. There is insufficient
antecedent basis for this limitation in the claim.

Claim 5 recites the limitation "said rules" on page 58. There is insufficient
antecedent basis for this limitation in the claim.

Claim 6 recites the limitation "said rule objects" on page 58. There is insufficient
antecedent basis for this limitation in the claim.

Claim 35 recites the limitation "said queue" on page 58. There is insufficient
antecedent basis for this limitation in the claim.

10.   Claim 44 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite
for failing to particularly point out and distinctly claim the subject matter which applicant
regards as the invention.

The term "gracefully" in claim 44 is a relative term, which renders the claim
indefinite. The term "gracefully" is not defined by the claim, the specification does not
provide a standard for ascertaining the requisite degree, and one of ordinary skill in the
art would not be reasonably apprised of the scope of the invention. Appropriate
correction is required to particularly point out and distinctly claim the limitation of claim
44.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that
form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

11.   Claims 1-13, 18, 19, 24, 25, 37-46, 49, and 52-54 are rejected under 35 U.S.C. 102(e) as being anticipated by King et al. (US 6,477,707).

As per **claim 1**, King teaches a multimedia scheduler for scheduling media items for network broadcast comprising:

at least one work manager for each channel serviced (see col.8, lines 4-6: "CMC 35 preferably comprises a scheduler 300a"), said work manager including at least one producer thread, a task queue and at least one worker thread (see col.6, lines 12-13: "Processor 310"; and col.8, lines 4-18: "media-object retrieval manager 502"; "file transfer manager 504"; "subscription control manager"); and

one or more scheduler objects associated with each producer thread (see col.2, line 3: "variety of media objects"; and col.5, line 44: "broadcast-ready data objects");

wherein said work manager and associated scheduler objects create and maintain a broadcast schedule for each channel according to predefined criteria (see col.3, lines CMC 35 multiplexes the media object onto a channel in accordance with received scheduling instructions"); and

wherein said system is scalable to service a plurality of broadcast channels and/or services simultaneously (see col.2, lines 57-61: "the system may preferably comprise one or more of each of these components").

As per **claim 2**, which depends on claim 1, King teaches of further comprising:

at least one property manager for providing access to all application properties (see col.10, lines 32-34: "subscription manager" and col.12, lines 53-58);

at least one database connection manager for managing access to data sources (see col.4, lines 59-65: "protecting the rights and limiting the liabilities);

at least one communication module for accepting requests on a server socket and calling appropriate routines to fulfill the requests (see col.14, lines 44-45: "request to the file and gain access to its contents");

at least one rules factory (see col.10, lines 43-45: "one or more software programs" and col.12, lines 57-58: "comprises a software program running");

at least one utility thread (see Fig.5: "DAEMON");

at least one main application thread for initializing system components (see col.3, lines 14-16: "Once... ready for broadcast, it is transmitted to a CEC or CMC for aggregation and broadcast scheduling");

at least one logging system (see col.2, lines 50-51: "media object tracking system" and col.4, lines 62-63: "track and control the use and distribution of all received media objects");

at least one work creator factory (see col.6, lines 12-13: "Processor 310...");

at least one data cache (see Fig.10, #122);

at least one properties file (see col.5, lines 47: "broadcast parameters"); and

at least one database (see Fig.10, #126).

As per **claim 3**, which depends on claim 2, King does not teach wherein said predefined criteria comprise any of programming rules, a rotation pattern for each

channel, and rotation codes assigned to individual media items (see col.10, lines 58-59).

As per **claim 4**, which depends on claim 3, King further teaches wherein said media items comprise digital recordings of songs (see col.1, lines 45-50: "streaming video, audio, or data").

As per **claim 5**, which depends on claim 2, King further teaches wherein said rules comprise objects that implement a rules interface (see col.3, lines 54-57: "metadata").

As per **claim 6**, which depends on claim 5, King further teaches wherein said rules factory maintains a cache of said rule objects in memory (see col.5, lines 45-48).

As per **claim 7**, which depends on claim 2, King further teaches wherein said property manager provides access to application properties, said application properties stored in any of a property file and a configuration database (see col.5, lines 45-48 & col.8, lines 23-26).

As per **claim 8**, which depends on claim 7, King further teaches wherein properties are loaded into a properties object in said property manager when said property manager is initialized by said main application thread (inherency).

As per **claim 9**, which depends on claim 7, King further teaches wherein said property manager includes a method for refreshing properties at regular intervals, wherein said method is called by one of said utility threads (see col.13, lines 51-54: "updates the subscription information").

As per **claim 10**, which depends on claim 2, King further teaches wherein said database connection manager comprises an access point to connect to said database (inherency).

As per **claim 11**, which depends on claim 9, King further teaches wherein said database connection manager maintains a thread-local cache of connections for each thread (see col.14, lines 41-53).

As per **claim 12**, which depends on claim 9, King further teaches wherein said database connection manager provides a connection pool to each data source (see Fig.3 and col.5, lines 53-58).

As per **claim 13**, which depends on claim 9, King further teaches wherein said database connection manager provides a thread-local cache of connections for each thread (see col.14, lines 41-53).

As per **claim 18**, which depends on claim 2, King further teaches wherein, said communication module accepts requests on a server socket and calls appropriate routines to fill the request (see claim 2 rejection above).

As per **claim 19**, which depends on claim 18, King further teaches wherein a port number for said socket is configured in said property file (see col.5, lines 45-48 & col.14, lines 54-56).

As per **claim 24**, which depends on claim 2, King further teaches wherein, said logging system records transactions and activities (see col.12, lines 65-67).

As per **claim 25**, which depends on claim 24, King further teaches wherein logging behavior is configurable by means of a logging properties file (see col.12, lines 65-67).

As per **claim 37**, which depends on claim 2, King further teaches wherein said data cache caches data common to all scheduling objects and data that change infrequently, and wherein a static data cache object contains a concrete data cache instance for each data source defined on a system (see col.14, lines 41-44).

As per **claim 38**, which depends on claim 37, King further teaches wherein a data cache refresher thread reloads cached data, and wherein a refresh interval is specified in said property file (inherency).

As per **claim 39**, which depends on claim 2, King further teaches wherein said main application thread comprises a starting point for said multimedia scheduler (inherency).

As per **claim 40**, which depends on claim 39, King further teaches wherein said main application thread initializes main components within the multimedia scheduler (inherency).

As per **claim 41**, which depends on claim 39, wherein said main application thread waits for a 'stop' or 'abort' request after initializing said main components (inherency).

As per **claim 42**, which depends on claim 39, King further teaches wherein said main application thread includes a monitor, wherein a socket listener thread notifies said monitor when a request is received by a server socket (inherency).

As per **claim 43**, which depends on claim 42, King further teaches wherein an 'abort' request stops said scheduler immediately (inherency).

As per **claim 44**, which depends on claim 42, King further teaches wherein a 'stop' request allows the scheduler to stop gracefully so that:

work managers are stopped;

a cleanup of the database connection manager is performed; and

the application is exited (inherency).

As per **claim 45**, which depends on claim 39, King further teaches wherein said main application thread includes a plurality of public static methods to control and report on the scheduler (see col.3, lines 3-5).

As per **claim 46**, which depends on claim 39, King further teaches wherein said main application thread constitutes a class (see col.1, lines 47-49: "video, audio, and data").

As per **claim 49**, which depends on claim 2, King further teaches wherein said database comprises a plurality of tables, and wherein said at least one work manager and said property manager access said database (see col.8, lines 36-39).

As per **claim 52**, which depends on claim 1, King further teaches wherein said scheduler creates schedules for clip- based channels (see col.1, line 15).

As per **claim 53**, which depends on claim 1, King further teaches wherein said scheduler creates schedules for stream-based channels (see col.1, lines 48-50).

As per **claim 54**, which depends on claim 1, King further teaches wherein said services are broadcast at different bit rates (see col.15, lines 2-6).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set
forth in section 102 of this title, if the differences between the subject matter sought to be patented and
the prior art are such that the subject matter as a whole would have been obvious at the time the
invention was made to a person having ordinary skill in the art to which said subject matter pertains.
Patentability shall not be negatived by the manner in which the invention was made.

12.   Claims 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over King

et al. (US 6,477,707) in view of Connelly (US 7,020,893).

As per claim 20, which depends on claim 18, King further teaches wherein said

requests comprise XML (extensible markup language) strings.

Connelly teaches wherein said requests comprise XML (extensible markup

language) strings (see col.25, lines 34-37).

It would have been obvious to a person of ordinary skill in the art at the time the

invention was made to modify the system of King in view of Connelly so that the request

comprise XML (extensible markup language) strings. One would be motivated to do so

because King teaches that the user accesses the system through the Internet via a

browser (see col.14, lines 62-65).

13.   Claims 50 and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable

over King et al. US 6,477,707.

As per **claims 50 and 51**, which depends on claim 49, King does not explicitly

teach wherein said tables include tables for at least: current state of scheduler wherein

said state is persistently saved; an exception log for recording events, wherein events
include rule violations; enumeration of log messages; associating rotation patterns to a
channel; rotation patterns created by DJ's; rule definitions; associating rules to a
channel; defining channel specific rule values; and channel configset and wherein said
tables further include: channels; channel-specific ads; channel-specific playlists;
playlists; playlists of clips; clips; encoding formats; song location; and song metadata,
respectively.

However these differences are only found in the nonfunctional descriptive
material and are not functionally involved in the steps recited. King clearly teaches that
the database comprises tables wherein said at least one work manager and said
property manager access said database regardless of the data inside the table. Thus
this descriptive material will not distinguish the claimed invention from the prior art in
terms of patentability, see *In re Gulack*, 703 F.2d 1381, 1385, 217 USPQ 401, 404 (Fed.
Cir. 1983); *In re Lowry*, 32 F.3d 1579, 32 USPQ2d 1031 (Fed. Cir. 1994).

Therefore, it would have been obvious to a person of ordinary skill in the art at
the time the invention was made to employ and data within the table of King because
such data does not functionally relate to the steps in the method claimed and because
the subjective interpretation of the data does not patentably distinguish the claimed
invention.

Allowable Subject Matter

14.   Claims 14-17, 21-23, 26-36 and 47-48 are objected to as being dependent upon

a rejected base claim, but would be allowable if rewritten in independent form including

all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject

matter:

Prior art of record does not explicitly teach, suggest or disclose alone or in

combination "wherein said database connection manager includes methods for: getting

connections; returning connections; and flushing a thread local cache" as recited in

claim 14.

Prior art of record does not explicitly teach, suggest or disclose alone or in

combination "wherein said connection pool performs a sanity check on each connection

requested from said pool by created a dummy prepared statement, and executing it" as

recited in **claim 15**.

The limitation of **claim 16** depends on claim 15.

Prior art of record does not explicitly teach, suggest or disclose alone or in

combination "wherein the connection pool opens a new connection if one is unavailable

from the pool" as recited in **claim 17**.

Prior art of record does not explicitly teach, suggest or disclose alone or in

combination "wherein said requests include strings for: stop; abort; channel_schedule;

status; ping; rotate_logfile; and refresh" as recited in **claim 21**.

Prior art of record does not explicitly teach, suggest or disclose alone or in combination "wherein said utility threads include: a property refresher thread; a GC (garbage collection) thread for memory management; and a logfile rotator thread" as recited in **claim 22**.

The limitation of **claim 23** depends on claim 22.

Prior art of record does not explicitly teach, suggest or disclose alone or in combination "wherein scheduling objects comprise work creator objects and wherein associating a scheduling object with a producer thread comprises wrapping a work creator object with a producer thread" as recited in **claim 26**.

The limitation of **claims 27-36** depends on claim 26.

Prior art of record does not explicitly teach, suggest or disclose alone or in combination "wherein said properties file controls behavior of said scheduler and specifies parameters to tune said scheduler" as recited in **claim 47**.

The limitations of **claim 48** depend on claim 47.

Conclusion

15.   For the reasons above claims 1-13,18-20,24,25,37-46 and 49-54 have been rejected and claims 14-17,21-23,26-36,47 and 48 have been objected.

Claims 1-54 remain pending with this action.

16.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Y. Won whose telephone number is 571-272-3993. The examiner can normally be reached on M-Th: 7AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Saleh Najjar can be reached on 571-272-4006. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael Won/

Primary Examiner

August 12, 2007